STUDENTS' ACHIEVEMENT ELECTRONIC BOOK AND COMMUNICATION SUBJECTS AT GUANGXI MEDICAL UNIVERSITY, CHINA

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ABSTRACT
The objectives of this study were 1) to study electronic book on communication subject for students with the criteria of 80/80, 2) to compare learning achievement results of post-test of students by using electronic book and 3) to study attitudes of students towards the electronic book on communication subject. This research methodology was quasi-experimental research. The conceptual framework was applied from Yuyao's study. The population consisted of 100 students in Guangxi Medical University, China. The samples of 80 students were determined by Krejcie and Morgan table and divided into 2 groups experimental group and control group were of 40 students in each class determined by purposive sampling. The instruments used in the study were the multiple-choice test, and aptitude test for electronic book. The statistics used for data analysis were mean, standard deviation, and a t-test. The study results revealed that 1) the electronic book showed an efficiency level of 82.06/80 according to the criteria value of 80/80. 2) The learning achievement after participating in the lessons with learning from electronic book, the students revealed their higher post-test results than studied in the class by traditional approach, and 3) the students' attitudes towards the electronic book and showed an average level of 4.06 with a high standard deviation at .75.
Keywords: Students' Achievement, Electronic Book, Communication Subjects, Guangxi Medical University, China

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INTRODUCTION

Currently, computers have evolved to operate in several multimedia formats, including multimedia electronic book systems, which integrate text, voice, graphics, and animation, functioning cohesively. The book has several benefits over other media forms, including its resemblance to a textbook, its capacity to transmit content swiftly, its accessibility, and its ability to depict moving visuals realistically. A sound effect enhances motivation in teaching. Electronic books represent a novel advancement in educational technology, constituting a new generation of structured media. A system that provides engaging material and activities to facilitate learning. Readers may engage with and assimilate knowledge based on their interests and personal distinctions. Readers have the ability to practice their abilities or exercises without being prompted to verify their work. Their knowledge and comprehension derived from the programs included in electronic books. Electronic printing facilitates the creation of data that is efficient, aesthetically pleasing, economical, and, crucially, capable of global information dissemination. (Chalong Tubsri, 2016). Management of learning using electronic books and computer-assisted instructional classes in many media types, facilitating interaction between the learner and the computer. Interaction, akin to the pedagogical exchange between educators and learners in a conventional classroom, has emerged as a novel educational approach garnering recognition for its applicability in instruction. It comprises visuals, static pictures, animations, audio, and text that inspire learners and facilitate subject revision as required. In the face of uncertainty, pupils will have the capacity to independently study and learn, contingent upon their own abilities. It mitigates the issue of disparities. There exists considerable variation among individuals in their studies, since each person has distinct foundational information acquired from various educational institutions. These media has the capacity to enhance students' learning outcomes. The lesson incorporates multimedia and may use multidimensional media elements to connect to subtopics, hence enhancing the learning experience. Students may acquire knowledge via materials including text, visuals, and audio. It reacts to the instruction, enabling evaluation via reading assessments and the acquisition of prompt feedback. Self-learning aligns with the principle that computer courses are designed to address challenges in understanding fundamental electrical concepts. It assists pupils in comprehending the use of diverse equipment and instruments. Improved measures will minimize the danger and harm to tools, equipment, and students. I opine that computer-based lessons can be structured to align closely with traditional teaching methods, providing opportunities for experimentation in diverse contexts, thereby enabling students to comprehend and study at their discretion. Upon completing their studies, students will be able to apply the information they have acquired in practical contexts. (Wen Long, 2016) Occasionally, educators must instruct specific students who struggle to comprehend the material promptly or who fail to grasp the concepts, therefore hindering the progress of others who learn swiftly. Boredom during periods of anticipation, including schooling. The research consists of many educational mediums, literature, and electronic resources. It is suitable to serve as a pedagogical medium that fosters elevated academic performance among pupils, rather than just instructing in front of the class with engaging programs while maintaining a positive disposition. Facilitate education using digital books. Consequently, the researcher aims to use learning management techniques using electronic books to structure educational activities. This study aims to determine whether the organization of learning through electronic books influences academic achievement compared to traditional methods, while also examining students' attitudes towards electronic books and enhancing teaching and learning in information and communication technology.

LITERATURE REVIEWS

Although ongoing enhancements, computers are recognized as instruments for augmenting the efficacy of education. Regarding integration capabilities and user ease, it is rapid and uncomplicated. Computer-assisted education courses exemplify creative and engaging pedagogical approaches that integrate many forms or multimedia. Computer-Assisted Instruction (CAI) courses available online media literacy. The education system in Thailand is experiencing a transition via the use of electronic books (e-books) and electronic learning (e-learning). Adjust in line with the alteration. The worldwide education system is growing with technology, emphasizing a learning approach that depends on new technological advancements. Thus, technology serves as a tool capable of offering the education sector essential benefits. The investment will be advantageous and rewarding if you understand how to manage it. Arporn Chaisuwan (2022) studied the development of electronic books, noting that their history has been examined and that the concept of electronic books has been present in science fiction since antiquity. However, post-1940, a new concept of computing emerged based on the IBM model with the introduction of the Book Master device. Prior to the 1990s, e-books in the 1980s included two components: a reference manual and content for education and enjoyment. Reference work often include the creation and distribution of scholarly texts, as well as the development of intricate products from companies such as Silicon Graphics, Novell, and other manufacturers. They have created 12 instructional guides for electronic books in accordance with the technical standards of electronic formats, and during the last decade, we have seen the efforts undertaken. Will the things be delivered? It resembles electronic books available in the physical marketplace. While most of them were unsuccessful, a few, such as the Bookman or Franklin Bookman, remain available on the market, although their adoption is still limited. The issue with these gadgets is that the little display is difficult to see, has a limited battery lifespan, and lacks transcoding technology. Utilization of encryption to safeguard the publisher's copyright information. The delivery and display of letters remain cumbersome for users, shown by the usage of CD-ROMs or electronic circuit board cartridges, however one advancement has facilitated the emergence of electronic books. The development has intensified to the point of producing a flawless book. Portable computers use components, such as displays, in electronic books. Significantly, in recent years, the costs of computer components have decreased markedly, leading to the manufacturing of high-quality electronic books. The extensive use of the internet has enabled individuals to transmit several papers or books simultaneously at little expense, without the need for diskettes or storage cards for data such as novels or textbooks. Is anybody concerned about potential copyright infringement? Utilizing email as a medium, protocols for transmitting textbooks Novels may be safeguarded using encryption, preventing users of electronic books from disseminating the contents of novels or textbooks over electronic mail without prior purchase. Furthermore, electronic books are predicated on the use of technology. It is very lightweight and functions somewhat to a screen, obscuring anything that is beyond. In robust portable computers, particularly those with heavy-duty CPUs, the development of electronic books has mostly emphasized lightweight design and the use of plastic sheets or other materials for printing. In conclusion, electronic books have significantly progressed. It has been designed with accompanying equipment that may be conveniently transported or stored on a CD-ROM rather than a book. It is user-friendly since it is available in several file formats and may be downloaded and accessed at no cost. They may be extensively used in education.

Natthakorn Songkhram (2010: 63-64) said that the motivation theory used in the creation of films and electronic media is based on the theories of Malone and Lepper, as well as the ARCS Model developed by Keller and Suzuki. Malone and Lepper's notion of motivation. Identify the factors that will enhance student motivation to study, including Challenge, Curiosity, Fantasy, and Learner Control. The ARCS paradigm emphasizes four components: Attention,

Relevance, Confidence, and Satisfaction. Satisfaction, which may be encapsulated as concepts used in the design of electronics literature.
1) Provide learners with the option to choose the lesson's degree of difficulty that aligns with their individual capabilities.
2) Occasionally stimulate pupils' interest. This may include posing questions to instill uncertainty, using incomplete information or providing just partial answers, or concealing information inside images and allowing pupils to identify the words. Address the outstanding inquiries or requests. Concealed information, among other things.
3) Inspire creativity and aspiration by devising diverse scenarios and providing chances for children to see, auditory experience, and engage with their desires and interests.
4) Allow learners to choose the parameters of learning activities. However, starting with the session, pupils may manage the lesson effectively and comfortably.
5) Lessons must be structured to maintain student engagement throughout their duration. It lacks significant interest. Only the first phase.
6) Employ formats or activities that enable students to see the linkages and advantages associated with learning, hence illustrating its significance. This may include examples that are pertinent and closely aligned with the subject matter or practical application.
7) Enhance student confidence by explicitly communicating objectives and providing chances for appropriate engagement in activities, including granting learners autonomy. Self-improvement endeavors
8) Enhance student satisfaction by demonstrating the practical application of acquired knowledge in real-life scenarios.
Through the examination of papers pertaining to the assessment of learning outcomes, a hypothesis or notion has been proposed as follows:
Department of Academic Affairs, Ministry of Education (Department of Academic Affairs, Ministry of Education, 1978: 13); see Supalakhan Bhiromyap, who has instituted restrictions about learning outcomes in the textbook. Educational experts assert that academic performance signifies success or proficiency in any skill-based activity. Must depend on expertise in certain disciplines.
Sripan Uamjang (1996: 6) defined academic accomplishment as the cognitive competence reflected in the results of pupils on achievement tests. Educational methodologies of the era.
Suwit Hiranyakarn and associates (1997: 5) have delineated the definition of accomplishment or academic achievement in the lexicon of life. Education signifies achievement derived from competence, knowledge, or other factors. It may refer to the outcomes of instruction or the results that students get by participating in certain activities.

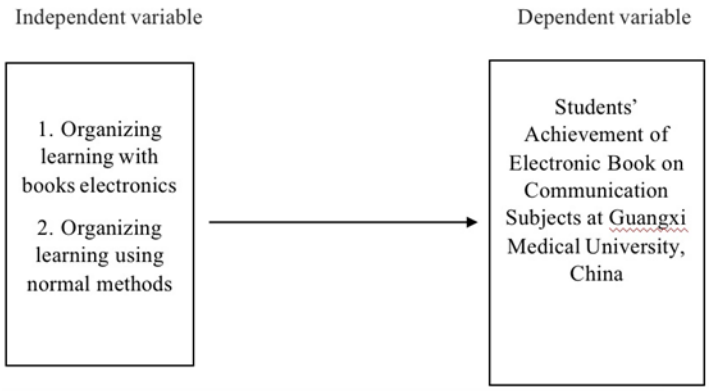

Figure 1 Conceptual Framework

RESEARCH METHODOLOGY

The population and Sample Group

The population consisted of 100 students at Guangxi Medical University, China. The samples used in the research were 80 students determined by Krejcie and Morgan and divided in 2 group the experimental group and the control group were of 40 students in each class determined by purposive sampling.

Research Instruments

The Tools used Collecting this data is possible.

1) E-book on information technology and communication for students.

2) Learning plan for information technology and communications by means of organizing learning with electronic books, 9 plans.

3) Learning plans on information technology and communication using normal methods, totaling 9 plans.

4) Test to measure learning achievement on the subject of information and communication technology, created by the experts, consisting of:

4.1) Test to measure international academic achievement of each learning unit 5 units, 5 copies, 10 copies per copy.

4.2) Test to measure learning achievement regarding information and communication technology used in electronic media Learn to study with electronic books, totaling 50 questions.

5) Model to measure attitude towards movies electronic media on information technology and communications 5-level estimation scale, 30 questions.

Data Collection

Tools that are used for the collection of victim information have also been created according to the following steps.

Electronic books: The researchers have created and developed electronic books as follows.

Steps for creating a movie electronic media has also made a movie. Electronic media has the following steps for creating it.

Study various theories, concepts, and research related to book creation.

Electronics from books, the internet, and other learning resources

Study the characteristics of the students, including age, prior knowledge, level, and skills that the students have previously trained. This is because electronic books have principles that look at the difference between the personal characteristics of students in various areas.

Create an electronic book following the steps of Nathapong Sompinta (2005: 50-58) to cover the content for use in organizing Learning with electronic books with learning content specified as follows: Information Technology

1) Learning Unit 1: Principles of computer operation.

2) Learning Unit 2: Role and benefits of computers

3) Learning Unit 3: Importance, impact, and trends of

4) Learning Unit 4: Data and Information

5) Learning Unit 5: Information in computers

Data Analysis

1) Basic statistics

1.1) Average (mean)

1.2) Standard Deviation

2) Statistics used to check tool quality

2.1) Find the efficiency of the movie Electronic Media from the formula E1/E2.

2.2) Find the accuracy value (IOC), difficulty value (p), and discriminatory power value (r) of the learning achievement test on the subject of technology. Information technology and communication.

2.3) Find the confidence value of the test's academic achievement in the subject of information technology and communication using Kuder-Richardson's KR-20 formula.
2.4) Find the validity (IOC) of the attitude towards movie-scale electronic media.
2.5) Find the reliability of the attitude measurement towards electronic books by finding the coefficient Qi alpha (∝-coefficient) of the factors. (Cronbach) (Pannee Leekitwat, Na., 2006: 110)

RESEARCH RESULTS

The research is to create electronic books on information and communication technology (ICT) for students at Chongqing College of International Business and Economics, China, and assess their effectiveness according to the E1/E2 criteria. The 80/80 criteria stipulate that the learning process and subsequent outputs must achieve at least 80% efficiency, hence demonstrating the efficacy of electronic media in both learning stages.

Table 1 Results of finding the efficiency of the movie electronic media to be effective according to the specified criteria 80/80

Learning management plan	**N**	**Measuring process results**			**Measuring results after learning**			E_1 or E_2
		ΣX_1	**A**	**E_1**	**ΣX_2**	**B**	**E_2**	
1-9	40	1,436	50	82.06	1,402	50	80.11	82.06/80.11

From Table 1, it is shown that students who studied with electronic books received scores from taking the test to measure learning achievement after the test. The learning units during the study total N (Number of students): 40 students engaged in the research. The cumulative score attained by students during the learning process was 1,436 points, resulting in an average score of 41.03 out of 50 points.
A (Maximum score for process outcomes): 50 points.
E_1 (Process efficiency): 82.06%, indicating the proportion of the overall score attained by pupils during the learning process.
ΣX_2 (Post-learning results): Upon conclusion of the learning process, students achieved a cumulative score of 1,402 points, resulting in an average score of 40.06 out of 50 points.
B (Maximum score for post-learning outcomes): 50 points.
E_2 (Post-learning efficiency): 80.11%, indicating the proportion of the total score attained by pupils after instruction.
Analysis: E_1 (82.06%): The learning process's efficiency surpassed the goal efficiency of 80%. This indicates that the electronic medium used in the learning process was very efficient in aiding students' comprehension of the topic, resulting in above-average performance.
E_2 (80.11%): The post-learning test results indicated that pupils attained an efficiency of 80.11%, somewhat exceeding the established criterion of 80%. This signifies that pupils preserved the information acquired during the learning process.
E_1/E_2 Ratio (82.06/80.11): This ratio indicates a balanced learning methodology, whereby the efficiency of the learning process is strongly correlated with the efficacy of post-learning outcomes, demonstrating that the instructional material successfully facilitated both the learning and retention phases.
Conclusion: The efficiency metrics of the learning process (E_1 = 82.06%) and post-learning outcomes (E_2 = 80.11%) surpassed the established efficiency threshold of 80%. This suggests that the electronic book medium developed for the students in this research was both efficient throughout the learning process and successful in facilitating information retention.

DISCUSSION & CONCLUSION

From a study this research is about Students' Achievement of Electronic Book on Communication Subjects at Guangxi Medical University, China, the results of the examination have been summarized as follows:

1) Electronic books on information technology and communication Effective according to the criteria: E_1/E_2 = 82.06/80.11, higher than the specified criteria of 80/80.

2) The post-study academic achievement of students who study using the electronic book learning method is higher than that of those who study using the normal method. It is statistically significant at this level. 05.

3) Students have attitudes towards movies. Electronic media is at a high level.

From the results of research on Students' Achievement of Electronic Book on Communication Subjects at Guangxi Medical University, China, we can discuss the results as follows:

1) Performance of the movie electronic media in information and communication technology for students, it was found that the efficiency was 82.06/80.11, which was the efficiency of electronic books on information and communication technology. For students, the first year of study is according to the criteria set for 80/80. Learning is organized using electronic books. There is a teaching format that is different from teaching in the normal way by using media presentation programs to accompany the lectures that are given to students. It is important for students to know that this will be an obstacle. Learners will quickly understand the principles of cognitive theory when designing teaching media. Taking into account the differences between people, therefore, the investigators designed the movie. Electronic books on information technology and communication Stimulate interest using the theory of motivating players. Learners want to learn by being presented with modern text and graphics, resulting in easy memorization. Learners have the freedom to learn quickly. By being able to learn content in great detail and quickly according to the abilities of each individual, which is in accordance with the concept of knowledge structure theory and intellectual flexibility in implementing Gaye's teaching model, Learning is based on the principles of presenting content and organizing activities. Learning from step-by-step interactions is consistent with the behaviorist theory that I said Demonstrative behavior. It is a response to a stimulus and learning characteristics. That behavior will happens in a clear order when electronic books are a medium that stimulates interest by interacting with learners and informants. This provides learning objectives for students by linking existing knowledge with new knowledge that is relevant. From then on, new lessons are presented with guidance to ensure effective learning. Episode and continuation are not confused. When learning is complete, learners take a test and then evaluate the results of the learning they have practiced so that they can know the immediate results of the evaluation. Your own abilities and work together to summarize what you can get. From learning to enhancing accuracy, transferring knowledge to use other things in the future This is consistent with Phasakorn Ruangrong (M.P.P.), who said that teaching and learning electronic media efficiently Educational theory should be applied. Gaye's nine steps of teaching are teaching steps that are accepted as being able to be used in teaching. Effectively Consideration of the capabilities of the media and the activities of the lessons on the network can lead to an analysis process that can be applied. When the results of the analysis are received, they can be used. In each step of teaching, this is in line with the research of Wannachana Erawan (2010: abstract), who has researched the development of electronic books on environmental science projects. 5th Year Graduation Ceremony, Electronics Nicks has a performance score equal to 81.00/89.40, which is higher than the criteria set at 80/80, and Paiboon Pattum (2011) researched the development of electronic books on information technology. For organizing teaching and learning for Mathayomsuksa Year 2, it was found that the efficiency of electronic books according to the 80/80 criteria is equal to 88.13/84.69, which is higher than the established criteria.

2) The post-study academic achievement of students who learned by organizing learning with electronic books was higher than learning by organizing learning with electronic books. The normal method had an average of 40.06, significantly higher than the learning organization with the normal method, which had an average of 30.60, which was statistically significant at the level of 0.05. This indicates that electronic books that have been developed are effective in stimulating learners' interest. It is a step-by-step learning process. You can review and learn easily according to the abilities of each person. This helps reduce differences between people. Electronic books are divided into groups. Learning is divided into small units, arranged from easy to difficult. Learners learn step by step, are not confused, are easy to understand, and practice making decisions that lead to learning on their own until thinking and management skills develop. Learn with electronic books. Learners can know the results of their learning immediately, which is considered a reward. In return, it can be classified as an inspiration for students to want to continue learning, in line with the research of Nophasanat Chalao (2011: abstract). It was found that students in the experimental group who learned with electronic books had a significantly higher average score than those in the control group. Statistically, Level .05 Nuanmanee Madajupa (2011: abstract) has examined the development of electronic books that affect the academic achievement of students. You can study using books. Electronic media on the subject of creating moving images had a higher average score than students taking classes with regular teaching. 0-5 and regulations (2554: abstract) I researched the development of electronic books on basic knowledge about computers for students in their second year of secondary school.

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